The Changing Food Assistance Landscape: The Food Stamp Program in a Post-Welfare Reform Environment. By Craig Gundersen, Michael LeBlanc, and Betsey Kuhn. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 773.

Abstract

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) dramatically transformed and continues to transform the food assistance landscape in the United States. The Act cut more funds from the Food Stamp Program than it did from any other program, through reductions in benefits per person and restrictions in eligibility. Despite these cuts, food stamps now have a more prominent role in the post-welfare reform social safety net because the largest cash-assistance entitlement program, Aid to Families with Dependent Children (AFDC), was replaced with the Temporary Assistance to Needy Families (TANF) program, a nonentitlement program. This leaves the Food Stamp Program as one of the only remaining entitlement programs available to almost all low-income households.

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The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) dramatically transformed and continues to transform the food assistance landscape in the United States. This report analyzes the effects of PRWORA on the Food Stamp Program.

PRWORA cut more funds from the Food Stamp Program than any other program, through reductions in benefits per person and restrictions in eligibility. Despite these cuts, food stamps now have a more prominent role in the post-welfare reform social safety net because the largest cash-assistance entitlement program, Aid to Families with Dependent Children (AFDC), was replaced with the Temporary Assistance for Needy Families (TANF) program, a nonentitlement program. This leaves the Food Stamp Program as one of the only remaining entitlement programs available to almost all low-income households. Its prominence will be especially apparent during recessions.

The Food Stamp Program is the cornerstone of the U.S. Department of Agriculture's domestic food assistance programs. Food stamps help low-income families and individuals purchase nutritious low-cost meals. It is the largest non-categorical Federal welfare program, serving nearly 23 million people a month— 9 million families—and providing nearly $20 billion in benefits in 1997.

Cutbacks in food stamps will lead to reduced expenditures on food, changes in the kinds of food consumed, and reduced expenditures on other necessities (like rent, clothing, and medical care) by low-income households. These lower outlays for food mean declines in gross farm income. This report suggests declines in gross farm income of between $1 to $2 billion over a 5-year period due to a $20-billion decline in food stamp expenditures. The largest impacts are expected for meat, dairy, and vegetables. Food processing and distribution sector annual output losses range from $1.3 billion to $2.5 billion.

The new role of food stamps in the social safety net implies that changes in macroeconomic conditions will have an even more significant impact on both food stamp participation rates and expenditures. Even in the event of a mild recession, food stamp participation rates could rise as high as 10.58 percent— slightly above the previous high of 10.49 percent in 1994. Expenditures would rise by almost 9 percent in the peak year under such a scenario. These estimates are based on historical data and do not incorporate the new stature of the program; the eventual impact of a recession may exceed these estimates.

The fiscal decisions of States are affected by the Food Stamp Program's role as the largest remaining entitlement program. Under AFDC, the State cost for an additional dollar of cash assistance was, on average, 50 cents; under TANF, States receive a block grant and, upon spending the full block grant, the State cost for an additional dollar of cash assistance is now $1. Because the Federal Government funds the benefits under the Food Stamp Program (sharing the costs to administer the program with State and local governments), States have an incentive to shift welfare costs to the Food Stamp Program. Conservative estimates of only a 9-percent decline in State TANF expenditures will lead to a $2.3-billion increase in food stamp expenditures, even in the absence of a recession.

The Changing Food Assistance Landscape
The Food Stamp Program in a Post-Welfare Reform Environment

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Introduction

The passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 swept away nearly six decades of Federal welfare policy. The Act eliminated the Aid to Families with Dependent Children (AFDC) entitlement program, replacing it with a fixed block grant giving States the fundamental role in assisting poor families, and adding significant new work requirements for recipients. Estimates of savings in Federal spending from 1997 through 2002 were in the range of $50 billion.[1] Federal outlays for child nutrition and food stamps alone were estimated to decrease by over $25 billion.

PRWORA received wide coverage in the news media with attention focused on changes in cash assistance, work incentives, and the types of programs States will enact with the fixed block grants. Less attention was given to the impacts of the legislation on the Food Stamp Program. About half of the expenditure cuts directly affect food stamps, and indirect impacts have important implications for the Food Stamp Program. For example, food stamps are now the only Federal entitlement available to all low-income households, except for Medicaid. Thus, in the next recession when earnings fall, the Food Stamp Program will be the main assistance program with the budgetary authority to expand.

Decreases in transfer payments to poor families will affect the food sector, the Federal budget, the role of

entitlement programs as personal stabilizers, and the demand for food. Lower transfer payments lead to reduced expenditures on food, changes in the kinds of food consumed, and reduced expenditures on other goods by low-income households. Decreases in food stamp outlays directly decrease food spending, but can also lead to lower expenditures for rent, clothing, and medical care as scarce resources are reallocated in the family. Lower food expenditures and changing food consumption patterns, particularly for children, may have significant effects on nutrition and long-term consequences for cognitive development, medical outlays, and productivity losses.

Much of the existing economics literature related to food stamps focuses on individual decisionmaking by food stamp recipients (Levedahl, 1991; Ranney and Kushman, 1987; Senauer and Young, 1986). The purview of this paper is on aggregate behavior: economywide effects, macroeconomic relationships, and fiscal adjustment. Given the large magnitude of the changes associated with AFDC and food stamps, potentially significant outcomes are anticipated throughout the economy. Our analysis focuses on three distinct though interrelated economic phenomena. First, we examine the implications of decreasing food stamp benefits on food production and consumption and the general economy. In particular, we examine how changes in relative profitability among firms and changes in consumer budgets affect output and consumption decisions throughout the economy. Second, we examine how changes in the macroeconomic environment affect poverty, Food Stamp Program participation, and food stamp budget outlays. Finally, we analyze the potential for State governments to shift the burden of supporting the poor to the Food Stamp Program, thereby putting greater emphasis on the Food Stamp Program as a social safety net.

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[1]The Congressional Budget Office (CBO) (Congress of the United States, 1996) estimated Federal savings from 1997 to 2002 to be $54.2 billion. These estimates were made assuming higher unemployment and more modest economic growth than the United States has experienced during the last year. Program savings are likely, therefore, to be higher than estimated, but still in the range suggested by CBO.

The Food Stamp Program

Food stamps help low-income families and individuals purchase nutritious low-cost meals. The Food Stamp Program is the largest noncategorical Federal welfare program, serving approximately 23 million people a month—9 million families—and providing nearly $20 billion in benefits in 1997. Federal spending on food stamps has traditionally exceeded Federal expenditures on both Aid to Families with Dependent Children (AFDC) and housing assistance programs. The Federal Government funds the benefits under the Food Stamp Program but shares costs to administer the program with State and local governments.

History

The original legislation authorizing food assistance for low-income persons in the United States was passed during the Great Depression. Section 32 of Public Law 72-320 (The Potato Control Act of 1935) allowed the Secretary of Agriculture to use 30 percent of the receipts from U.S. Customs to encourage exports of agricultural products, finance agricultural production, and "...encourage the domestic consumption of such commodities or products by diverting them, by payment of benefits or indemnities, or by other means from the natural channels of trade and commerce."

In 1961, President Kennedy instituted eight pilot food stamp projects affecting 392,400 people at a Federal cost of $29 million. Secretary of Agriculture Orville Freeman gradually expanded the pilot program under the auspices of Section 32 of the Agriculture Adjustment Act and then institutionalized it under the Food Stamp Act of 1964. The 1964 Act was initially authorized for 3 years to:

> promote the general welfare, that the nation's abundance of food should be utilized cooperatively by the State, the Federal Government, and local government units to the maximum extent practicable to safeguard the health and raise the levels of nutrition among low-income households [P.L. 8-525, 78 Stat.].

The Food Stamp Act defined the essential objectives of the program as: using the Nation's food supply, removing surplus, and promoting the nutritional well-being of low-income people. Although the specific characteristics, requirements, and emphasis of the

Food Stamp Program have changed over the last 35 years, these objectives continue to guide the Food Stamp Program.

The largest expansion of the program occurred from 1974 to 1994 (fig. 1). This growth occurred for three reasons. In 1974, a congressional amendment extended the Food Stamp Program to all counties and second, 1974 was hit hard by a recession, which combined with food price inflation, increased the need for food assistance to low-income households. This 1974 amendment ensured that all eligible residents of a State could receive benefits. The Food Stamp Act of 1977 made further changes. Most notable for increasing participation was the elimination of the purchase requirements. Households no longer had to pay for the maximum benefits, instead they are issued the net benefit (their maximum minus what the program rules determine what they are expected to pay for food from their own resources). A number of causes led to expanding the Food Stamp Program in the late 1980's. These included increased participation due to program changes expanding eligibility, lower wages due to a bifurcated labor market, changing family structure, strategic behavior by States, and declining macroeconomic conditions.

The total Food Stamp Program cost declined from $24.3 billion in 1996 to $21.5 billion in 1997. By

Figure 1
Food Stamp Program benefits, 1964-97

$billions/year
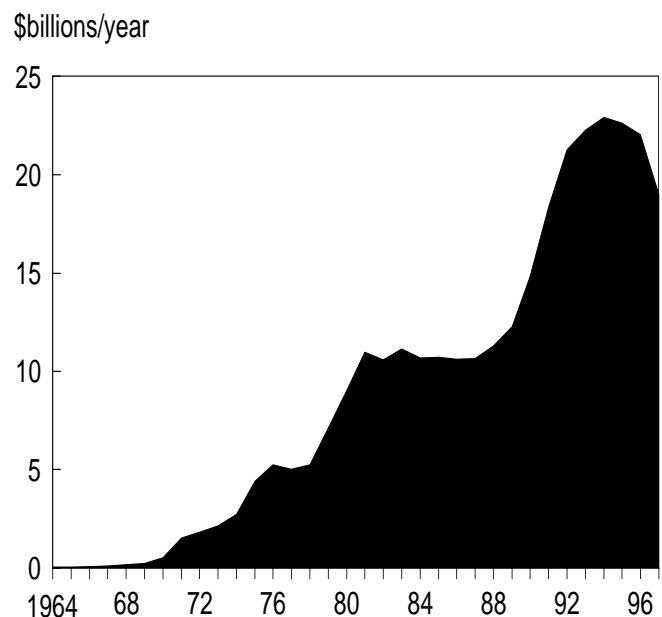
Source: U.S. Department of Agriculture, 1998.

comparison, in 1990, the program served an average of 20.1 million people a month and cost $15.5 billion; in 1985, 19.9 million people and $11.7 billion; in 1980, 19.2 million people and $8.4 billion; in 1975, 16.3 million people and $4.4 billion; and in 1970, 4.3 million people and $577 million. The program's all-time high participation was 28 million people in March 1994.

Participation

To participate in the Food Stamp Program, households must meet eligibility requirements based on citizenship, income, and asset ownership. U.S. citizens and some aliens who are admitted for permanent residency may qualify. PRWORA ended eligibility for many aliens, and placed time limits on benefits for able-bodied, childless adults. Households may have no more than $2,000 in assets, such as a bank account ($3,000 if at least one person in the household is age 60 or older). The value of a vehicle above $4,500 (or the entire equity, whichever is larger, for some vehicles) is also considered as an asset unless it is used for work or for transporting disabled persons. Certain resources such as a home are not counted.

The gross monthly income of most households cannot exceed 130 percent of the Federal poverty guidelines. The 1998 Federal poverty guidelines define the poverty threshold for a family of three with two children as $1,445 per month. Gross income includes all cash payments to the household. Net monthly income must be 100 percent or less of the Federal poverty guidelines. Net income is computed by subtracting a standard deduction, deductions for child and dependent care expenses, court-ordered child support payments made to nonhousehold members, excess shelter expenses, out-of-pocket medical care expenses in excess of $35 per month for elderly or disabled members, and 20 percent of earned income. Households with an elderly or disabled member are subject only to the net income test. PRWORA placed caps on the amount of extra shelter costs that could be deducted, froze the standard deduction at $134, and required most able-bodied adult applicants to meet certain work requirements.

The maximum amount of food stamps a household receives varies by household size and is adjusted annually for changes in the cost of the Thrifty Food Plan (suggested amounts of foods that make up a nutritious diet and can be purchased at a relatively

low cost). Because households are assumed to spend about 30 percent of their income on food, an individual household's food stamp allotment is equal to the maximum allotment for that household's size, less 30 percent of the household's net income. Households with no countable income receive the maximum allotment. In 1998, single-person households were eligible for a maximum of $122 worth of coupons a month, and a family of eight for a monthly maximum of $735 in coupons (table 1). In 1996, the average food stamp household received a monthly food stamp benefit of $174 and had an average household size of 2.5 persons (U.S. Department of Agriculture, 1998).

Characteristics of Participants

In fiscal year 1996, 59.5 percent of food stamp households had children, 16.2 percent had elderly persons, and 20.2 percent had disabled persons. About 60 percent of the children were school age, and over two-thirds of the adults were women. Over 90 percent of the food stamp households lived in poverty and 42 percent of participating food stamp households had gross income of less than 50 percent of the poverty threshold. Eighty-five percent of food stamp households, receiving 89 percent of food stamp benefits, contained a child, an elderly person, or a disabled person. Households with children, because of their larger average household size (3.3 compared with 2.5 persons), received a larger average monthly food stamp benefit ($237). Most food stamp households with

Table 1—Monthly food stamp allotments, fiscal year 1998

People in household	Maximum monthly allotment
	Dollars
1	122
2	224
3	321
4	408
5	485
6	582
7	643
8	735

Source: U.S. Department of Agriculture, 1998.

children were single-parent receiving support from the Temporary Assistance to Needy Families Program (TANF). About one-quarter of food stamp households had earned income. (Table 2 has more details about the characteristics of the program and participants.)

For many low-income households, food stamps provide a major share of the family's total purchasing power. For the average food stamp household consisting of a single female head of household with two children, food stamps comprise about 25 percent of the family's household resources. In States with relatively low benefits through the AFDC program, this share exceeded 50 percent (Ohls and Beebout, 1993).

Food stamps have a significant impact on the extent of poverty in the United States. If the nominal dollar value of food stamp benefits is added to food stamp recipients' income, there is a significantly different distribution of poverty status among food stamp recipients (table 3). Specifically, this alternative measure of income is sufficient to move an additional 6 per-

cent of food stamp recipients above the poverty threshold. Food stamp benefits had an even greater impact on the poorest households, moving an additional 23 percent of food stamp households above 50 percent of the poverty guideline.

Changing Welfare Legislation

Prior to welfare reform, the main cash assistance program was Aid to Families with Dependent Children (AFDC), established as part of the Social Security Act of 1935 to serve single parents with children under age 18. Each State set its own eligibility requirements and support levels, and these varied widely. In 1994, for a family of three, Mississippi provided the lowest benefits ($120 per month) in the 48 contiguous States, and Connecticut provided the highest ($680 per month). The inflation-adjusted value of AFDC payments had declined dramatically. The median amount paid by a State was $792 per month (in 1994 dollars) to a three-person family in 1970, but had declined to only $435 by 1993, a drop of nearly 45 percent.

Table 2—Program and participant characteristics for the Food Stamp Program (current dollars)

Characteristics	1980	1990	1995
Program characteristics:			
Total Federal outlays (million dollars)	9,188	16,512	24,600
Participation rate (percentage of U.S. population)	8.4	8.0	10.1
Average monthly participation (millions)	21.1	21.5	26.6
Average monthly benefit per person (dollars)	34.4	59.0	70.0
Participant characteristics (percentages)			
Food stamp recipient households:			
With gross monthly income—			
Below the Federal poverty level	87	92	90
Between 100 and 130 percent of poverty level	13	8	10
With earnings	21	19	25
With public assistance income*	70	73	73
With AFDC income	41	43	42
With Supplemental Security Income (SSI)	19	19	20
With children	59	61	53

*Public assistance income includes AFDC, SSI, and general assistance.
Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*. Washington, DC: Government Printing Office, 1989, 1995.

Table 3—Effect of food stamp benefits on poverty, 1995

Gross income as a percentage of the poverty threshold	Distribution of household income relative to poverty threshold		
	Without food stamps	Food stamps included as income	Percent change
<50%	42	19	-23
50-100%	50	66	16
>100%	9	15	6

Source: U.S. Department of Agriculture, 1998.

With the passage of welfare reform, AFDC was replaced with a new program called Temporary Assistance for Needy Families (TANF). Under AFDC, States committed a certain amount of assistance per recipient, and the Federal Government matched every dollar of State aid with approximately $1.10 of Federal aid. Under the block-grant structure of TANF, however, every State is given a fixed sum of Federal money (based on recent spending levels for AFDC) and, with a wide amount of latitude, the States are free to design how to provide this assistance. For example, States can use what was previously cash assistance to set up job training programs to give recipients skills to enter the work force. The assumption is that this increased freedom enables States to construct welfare programs that meet the particular needs of their low-income population.

The Act also ended the Federal guarantee of some minimum standard of living for poor families with children. Under AFDC, this guarantee was made without employment demands placed on the heads of families and without time limits. PRWORA stipulated that by 1997, 25 percent of the single-parent families receiving TANF benefits must be working at least 20 hours a week, and, by 2002, 50 percent must be working at least 30 hours a week. For two-parent families, 90 percent must be working a combined 35 hours a week by 1999. If States do not meet these requirements, their grant from the Federal Government will be cut by 5 percent the first year and an additional 2 percent in each subsequent year. This provides an impetus for States to move families into the workplace and off welfare.

The unrestricted nature of AFDC was also changed. Under TANF, recipient families can receive benefits funded by Federal monies for a lifetime total of only 5 years. States can make this limit less binding by exempting up to 20 percent of their families from the 5-year limit. But, they can also impose stricter limits—as little as 2 years of receiving assistance.

The Act cut more funds from the Food Stamp Program than any other program, through reductions in household benefits and restrictions in eligibility. Expenditures for the Food Stamp Program are projected to decline by about $22 billion during 1997 to 2002 from what expenditures would have been without reforms. The benefit levels for recipients fell from an average of 80 cents per person per meal to 75 cents. This reduction occurs for several reasons: a

family (one or more persons) can now receive food stamps worth a maximum of 100 percent of the cost of USDA's Thrifty Food Plan, down from 103 percent; the standard deduction used in calculating the benefit levels of households is capped at 1996 levels; increases in the deduction for shelter expenses are specified through 2001, after which it no longer increases (whereas it would have been unlimited); some non-Federal energy assistance is now counted toward household income; and the earnings of primary or secondary school students older than age 17 (instead of 22) are now counted toward household income.

Along with reducing household benefits, the Act generated cost savings by making approximately 1.3 million food stamp recipients ineligible. Most legal immigrants are now ineligible. In 1996, about 7 percent of all Food Stamp Program participants were legal immigrants. However, refugees and those with political asylum may be eligible for 5 years from the date admitted or granted asylum. Immigrants admitted for lawful permanent residence may be eligible if they have U.S. military service or if they can be credited with at least 40 quarters of qualified work (their own or a spouse or parent). Forty quarters of work is approximately 10 years of work. Eligibility was restored, however, for some legal immigrants who were present before 1996: children under age 18, persons over age 65, and disabled persons.

Able-bodied adults between the ages of 18 and 50 and without dependents who are working fewer than 20 hours a week are eligible for food stamps for only 3 months in any 36-month period. However, States can apply for waivers that exempt these adults from the work requirement in areas where the unemployment rate exceeds 10 percent or where employment opportunities are scarce. Forty-three States and the District of Columbia have applied for waivers for at least one area in their State.

The Balanced Budget Act of 1997 further changed the Food Stamp Program, especially in terms of able-bodied adults without dependents (ABAWDs). It allows States to grant exemptions of the work requirements for up to 15 percent of ABAWDs not otherwise subject to those requirements. In addition, due to concerns that some nonexempt ABAWDs living in non-waived areas who wanted to work but were unable to find work and/or did not have the necessary skills to work were being removed from the Food Stamp Program,

the Balanced Budget Act increases the amount of money available for the Food Stamp Employment and Training (E&T) Program. The Act also requires at least 80 percent of E&T funds be used to provide qualifying services to ABAWDs.

PRWORA promotes self-sufficiency among food stamp recipients by strengthening existing work requirements, simplifying program administration by expanding the States' flexibility in setting requirements for service to recipients, and strengthening program integrity by increasing penalties against retailers and recipients who violate program rules. By not block granting the Food Stamp Program, the program's entitlement status was retained, thus preserving the national nutritional safety net.

Other titles of the PRWORA also affect the Food Stamp Program. Most estimates, CBO (Congress of the United States, 1996) for example, suggest households will receive lower average cash assistance payments relative to the old law and consequently, higher food stamp benefits. Under current rules, each dollar lost in cash would increase a participating household's food stamp benefits by 30 cents. CBO estimates the incomes of AFDC families would decline relative to current projections by $2.3 billion in 2002, generating a food stamp cost of nearly $700 million. By 2002, the block grant amount is 10 percent lower than projections of spending under the old law on AFDC and related programs. For the purposes of determining food stamp costs, CBO assumes cash benefits funded by the block grant will be 10 percent lower than under the old law in 2002. In addition, CBO assumed that by 2002 States, on average, would spend 15 percent less of their own funds on cash benefits than under the old law. Similarly, tighter eligibility criteria for children seeking disability benefits under the Supplemental Security Income Program are expected to increase expenditures on food stamps by $290 million in 2002 and by $1.2 billion over 1997-2002.

Impact of Cuts in Federal Assistance

The net effect of the new law is to significantly decrease food stamp outlays. CBO's estimate, though likely high, is that $23 billion over 1997-2002, or about $4 billion per year, will be cut. Reductions in food stamp benefits will cause low-income families to decrease spending on food and other goods such as housing, clothing, and medical care. Thus, the economic effects of cuts in transfers to low-income families, even in the form of food stamps, are not limited to the production and consumption of food, but ripple throughout the economy.

The effects of decreasing government transfers to low-income households on food production and consumption, and on the general economy, are estimated in two different though complementary general equilibrium studies. These general equilibrium analyses focus on how changes in relative sectoral profitability affect changes in output, returns, and the flow of resources into and out of the farm sector. Figure 2 provides a heuristic characterization of the general equilibrium models used to estimate the effects of lower Federal transfers to low-income households. The effects of major changes in policy, like welfare reform legislation, are not restricted to one sector but broadly affect economic incentives and behavior across the economy. Policy induced changes in sectors supplying inputs, demanding agricultural products, or competing for scarce capital and labor are likely to have different effects on agriculture than suggested by a partial equilibrium analysis.

Using general equilibrium models to assess policy changes is not new or unique to this study. Meade (1955), Johnson (1958), Harberger (1962), and others have applied early numerical analogues of traditional two-sector general equilibrium models. Analytical work has centered on the distortionary effect of taxes, tariffs, and other policies, together with the incidence of corporate taxes.[2] Not only do general equilibrium results highlight policy-induced changes in sectoral input and output, but they also highlight distributional changes as economic welfare shifts between consuming agents or income classes. The general equilibrium nature of a model is characterized by the determination of prices for consumer and producer goods and services that clear all markets. The equilibrium prices

determine the optimal allocation of resources, given the endowments of labor, capital, and natural resources (land for crop, livestock, and forestry production) and the tax and transfer policy regime in place.

Agriculture and the General Economy

A modified computable general equilibrium model based on Robinson, Kilkenny and Hanson (1990) simulates the effects on economywide output and employment from reducing Food Stamp Program benefits. Starting from a 1993 base, the model simulates the adjustments that would occur to the economy, given a $4-billion annual average decline in the Food Stamp Program for 5 years. The general equilibrium approach applied allowed prices and wages to adjust to restore full employment of resources and to readjust supply and demand for goods and services.

Food stamps increase total spending on food, although the increase is less than the amount of the benefit. The marginal propensity to consume food from food stamps, often referred to as the supplementation effect, has been estimated in the range of 0.20 to 0.45 (Fraker, 1990; Ohls and Beebout, 1993; U.S. Department of Agriculture, 1995a,b). Although all of the food stamps are spent on food, funds previously spent on food are reallocated to other needs, such as housing, clothing, or medical care. This marginal propensity to consume out of food stamps, the supplementation effect, implies the initial impact of a $23-billion decrease in Food Stamp Program benefits would be a decline of $5 to $10 billion over 6 years in retail food spending and a decline of $18 to $13 billion over 6 years in nonfood spending.

Two supplementation scenarios are examined: a supplementation effect of 0.2 and a supplementation effect of 0.45. It is also assumed budget savings from lower transfers are returned to the economy through tax reductions. With lower taxes, demand and jobs shift, primarily into consumer goods and services. In this analysis, returning budget savings to the economy leads to a constant level of total employment in the long run.[3]

The economywide effects capture the linkages among the producing sectors and households, with households distinguished by income groups. The impacts

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[2]Harberger (1962) was the first author to investigate tax policy numerically using a two-sector general equilibrium framework.

[3]This analysis did not account for dynamic growth effects from investment into private capital or from potential changes in work incentives.

Figure 2
The Computable General Equilibrium model
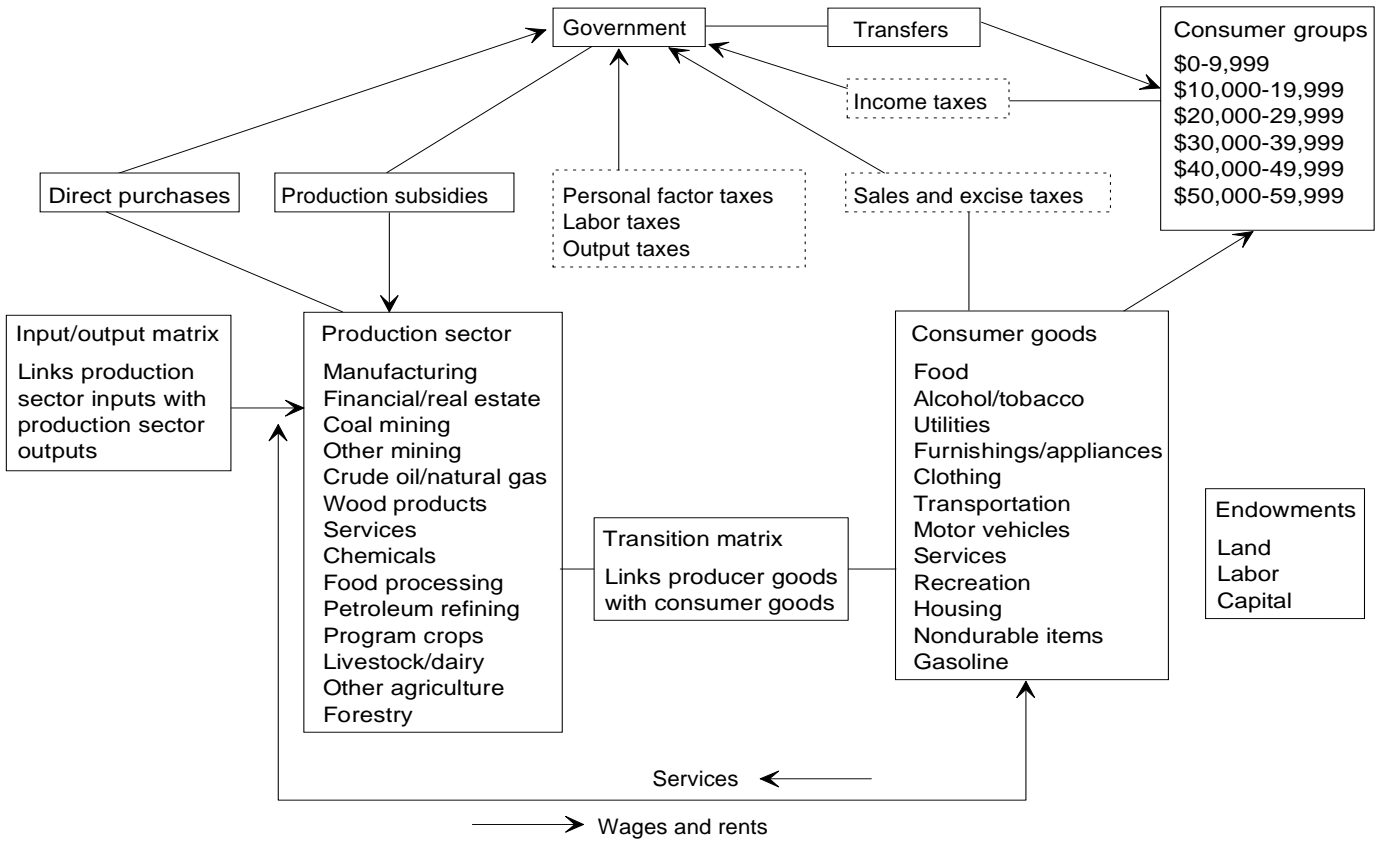
Source: Authors' calculations.

on producers from a $4-billion annual reduction in food assistance and a shift from food to nonfood demand are analyzed under the assumption that savings from a decrease in the Food Stamp Program's budget are used for deficit reduction. Farm sector annual output losses are estimated to range from $1 to $2 billion over 5 years (between 0.1 and 0.2 percent of sector output) (fig. 3). Annual output losses from the food processing and distribution sector range from $1 billion (0.15 percent) to $2.5 billion (0.3 percent) over the same time. Losses in output among service sectors range from $6 billion to $3 billion (0.03 to 0.02 percent) as expenditures on consumer services are reduced to supplement food expenditures. Annual output in durable manufacturing expands by $2.3 billion (0.1 percent), while construction expands by $2.0 billion (0.25 percent).[4] Employment impacts display the same pattern. On an annual basis, the farm sector loses 3,000 to 6,000 jobs, food processing and distribution lose 14,000 to 25,000 jobs, services lose

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[4]Output per worker differs across sectors. The reallocation of jobs from low-productivity sectors, agriculture and services, into high-productivity sectors, construction and durable goods manufacturing, leads to greater total production.

Figure 3
Economywide impacts on output

$ million
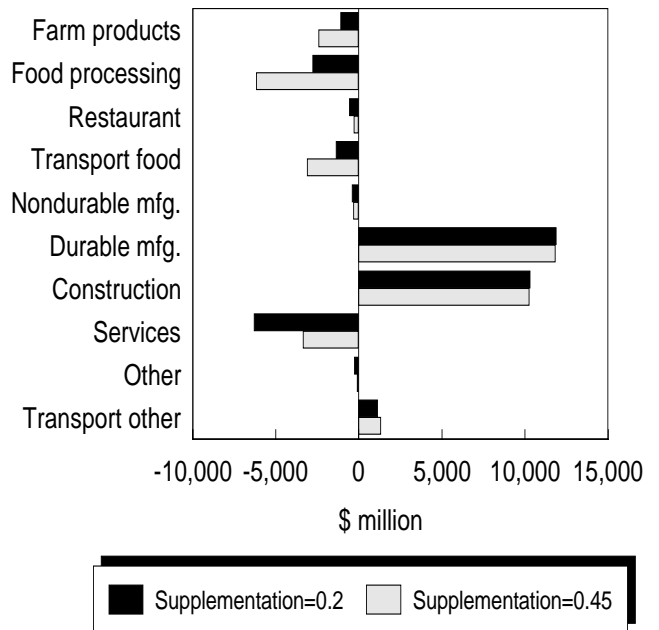
Source: From data in U.S. Department of Agriculture, 1995a.

11,000 to 19,000 jobs, durable manufacturing gains 15,000 to 16,000 jobs, and construction gains about 18,000 jobs.

The impact of program modifications on spending for particular foods depends on the overall impacts on food spending as well as how low-income households allocate their food budget (fig. 4). The impact on farm commodities depends on changes in food spending of program participants, the value of the farm component in each food group, supply and demand adjustments that take place at the farm level, and any interactions that might take place with farm programs. Results suggest the largest impact is on the beef sector. This is due to the large portion of the household budget spent on beef and the large farm component of the product.

Meats account for the largest share of the household food budget. Low-income households spend one out of every three food dollars on beef, pork, poultry, fish, and eggs. In general, meat products at the retail level require less processing than other foods. In other words, they have a high share of farm value per dollar of retail expenditure. For example, the farmers' share of retail value of a pound of choice beef is 56 percent. This contrasts with a 34-percent farm value of a pound of cheddar cheese, 18- to 29-percent for fresh vegetables, and 28-percent for flour, and much less for prepared foods. Consequently, the farm value of a change in retail food spending at the farm level is likely to be greater for meats than for other food groups.

According to our model, the new welfare legislation's potential economic effects on the agricultural sector and the general economy would be as follows:

- Retail food spending would decrease.

- Demand for agricultural commodities would decrease.

- Commodity prices and farm income would decrease.

- Capital and labor would be reallocated to nonfood sectors.

Keep in mind, these effects depend on two criteria: (1) how much the benefits will be reduced, and (2) what shape the program will take. Our model shows that in the short run, the economywide effects would be negative. As the reduced government expenditures are injected back into the economy, through a tax cut, the short-term effects are mitigated.

Welfare Reform and Changes in Capital Gains Taxation

LeBlanc, Hrubovcak, and Durst (1998) examined the combined effects of cutting transfer payments and reducing the taxation of capital by decreasing the tax on capital gains. Linking welfare cuts with an exclusion on capital gains, it is argued, increases incentives

Figure 4
Estimated spending declines for food, 1996-2000

$ million

Supplementation = 0.2 Supplementation = 0.45
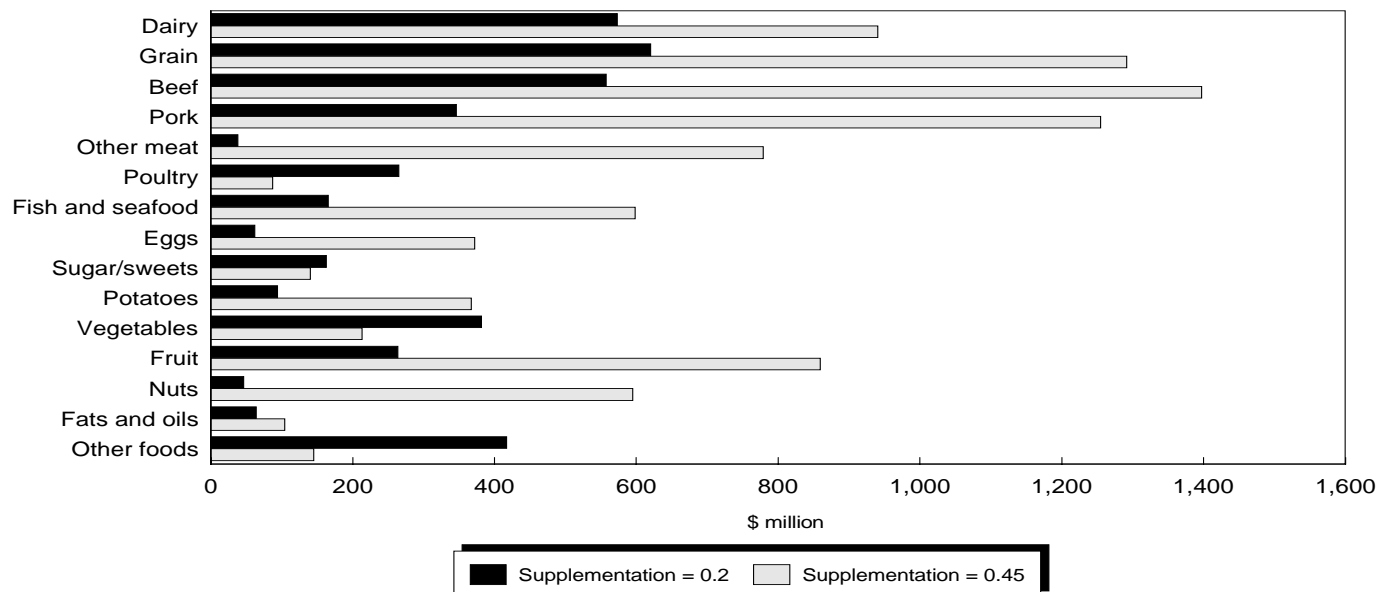
Source: From data in U.S. Department of Agriculture, 1995a.

for people to work in an expanding economy. Lowering the capital gains tax rate will provide additional incentives for capital formation through increased investment and savings and will mitigate the "double" taxation of capital income and the taxation of purely inflationary increases in the value of assets.

Two simulations are presented: *Proportional Redistribution* reduces transfer payments proportionally across all income classes by $10 billion and maintains budget neutrality by restoring a 30-percent capital gains exclusion and *Targeted Redistribution* decreases welfare transfers to each income class and restores preferential treatment of capital gains. The authors use the change in a sector's output as a useful summary indicator of the interaction between changing input use, returns, and consumption decisions. Driven by economywide efficiency gains from less distorting capital taxes, agricultural production and food processing, like all other sectors, experience increased output.[5] Under a *Proportional Redistribution* scheme, output for program crops and other agriculture decreases while output for food processing and livestock and dairy increases (table 4). Reflecting the greater relative after-tax profitability, food processing increases by $317 million and dairy and livestock increases by $148 million. Food-related output under *Proportional Redistribution* is greater than under *Targeted Redistribution* as the demand for goods and services shifts to nonfood items. Food processing is affected directly by the capital gains exclusion and indirectly from cost savings from lower livestock prices.

Extending preferential tax treatment on income earned from the sale of assets held for draft, dairy, breeding, and sporting purposes acts as a catalyst for livestock and dairy agriculture. Without preferential treatment on the sales of livestock, agricultural output would increase little. Although agriculture is relatively capital intensive, land comprises most of the capital. Because a small percentage of land actually transfers in a taxable manner in any given year, the effect of restoring the capital gains exclusion for land is less important than for other forms of capital.

Cutting transfer payments proportionally while increasing the capital gains exclusion draws resources into food production, leading to lower prices and an

Table 4—Estimated change in food production

Item	Proportional redistribution	Targeted redistribution
Program crops	-204	-211
Livestock and dairy	148	54
Other agriculture	-75	-104
Food processing	317	-11

Source: From data in LeBlanc, Hrubovcak, and Durst, 1998.

increased consumption of goods and services by all income classes (table 5).[6] Efficiency gains in the economy, due to reducing the distorting effect of overtaxing capital relative to labor, increase overall expenditures. Proportionally redistributing the budget shortfall over all income classes to offset the tax reduction still leaves sufficient income to increase consumption. Expenditures for essential goods and services (food, housing, and transportation) increase by nearly $1.5 billion. Food expenditures alone increase by $535 million. Expenditures for food increase by nearly $216 million for the three lowest income classes and $319 million for families with income exceeding $30,000 annually.

By accounting for the flow of resources after a policy event, we can estimate which income class benefits or loses after the economy readjusts to a new equilibrium. Internal Revenue Service data reveal capital gains in the general economy are concentrated at incomes exceeding $50,000 per year.[7] In fact, 90 percent of the capital gains for all taxpayers were claimed for income tax returns with adjusted gross incomes of $50,000 or more. Moreover, capital gains realizations are more concentrated than ordinary income. Persons in the top 0.5 percent of the income distribution generate 59 percent of all capital gains compared with only 12 percent of the adjusted gross income.

Table 6 presents estimated economic welfare changes due to restoring the preferential treatment of capital gains for two types of reduction in government transfers: (1) proportionally and (2) targeting low-income

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[5]The largest estimated dollar increase in output occurred in the service sector, nearly $8 billion in the *Proportional Redistribution* experiment.

[6]Estimates presented in tables 4 and 5 have been aggregated from 13 to 5 sectors to focus attention on food, housing, transportation, utilities, and services.

[7]Critics argue that statistics on the distribution of capital gains are misleading because a large fraction of capital gains go to people of modest income with temporarily inflated income in the year the gain is realized. Feenberg and Summers (1990) suggest reliance on a single year's income does not greatly alter the distribution of capital gains.

Table 5—Change in consumer expenditures under alternative scenarios

Income class	Experiment	Consumption category						
		Food	Housing	Transport	Utilities	Services	Other	Total
		Million dollars						
$0-10,000	Proportional	54	51	31	25	22	82	266
	Targeted	-844	-877	-502	-385	-353	-1,321	-4,281
$10-20,000	Proportional	69	61	44	27	69	116	386
	Targeted	-67	-172	-63	-21	-130	-197	-651
$20-30,000	Proportional	93	86	73	34	109	171	566
	Targeted	183	9	109	74	115	209	699
$30-40,000	Proportional	92	86	75	31	126	173	584
	Targeted	276	101	192	100	267	402	1,339
$40-50,000	Proportional	64	61	53	21	96	124	420
	Targeted	219	86	155	77	234	330	1,100
> $50,000	Proportional	163	195	139	55	316	375	1,242
	Targeted	633	412	479	226	956	1,231	3,937

Source: From data in LeBlanc, Hrubovcak, and Durst, 1998.

families.[8] In either case, restoring a 30-percent capital gains exclusion increases national welfare by reducing the after-tax distortion between capital and labor prices. The results indicate total economic welfare increases by about $800 million or roughly 0.02 percent of national income. Both transfer schemes simply reallocate the $800 million in welfare gains to different income classes. Holding government expenditures constant isolates estimates of welfare gains by the private sector that are associated with reducing capital taxation. These results indicate that welfare gains generated by increasing the preferential treatment of capital gains are concentrated at higher incomes (table 6). Under the *Proportional Redistribution* scheme, nearly 55 percent of the estimated welfare gains accrue to the top 17 percent of families, 62 percent to the top 30 percent, and 76 percent to the top 50 percent. The bottom three income classes, representing 42 percent of households capture 24 percent of the welfare gains.

The estimated economic welfare gains associated with the preferential treatment of capital gains are, however, distributed more evenly among income classes than the distribution of capital gains realizations. While the highest income class, $50,000 and above, accounts for 90 percent of the capital gains realizations in 1988, it only captures 62 percent of the welfare gains. The largest relative winners are families in the $20,000-$30,000 and $30,000-$40,000 ranges

Table 6—Welfare changes under proportional and targeted redistribution schemes

Income class	Proportional redistribution	Targeted redistribution
	Billion dollars	
$0-10,000	0.086	-4.970
$10-20,000	0.045	-0.465
$20-30,000	0.066	0.128
$30-40,000	0.111	1.018
$40-50,000	0.058	0.909
> $50,000	0.446	4.193
Total	0.812	0.812

Source: From data in LeBlanc, Hrubovcak, and Durst, 1998.

who account for 22 percent of the welfare gains and only 4 percent of the capital gains realizations. The disproportionate increase in the welfare of these two income classes is explained by the increase in the after tax return of capital, but more importantly, the increase in wage income generated by an expanding economy. For both income classes, labor accounts for over seven times more income than from capital.

Not surprisingly, targeting low-income consumers to offset the reduced taxation of capital heightens the inequality of welfare distribution. Like the other targeting scheme, estimated gains are concentrated at higher income levels. With this redistribution scheme, however, families with income equal to or exceeding $50,000 capture $4 billion in welfare gains and families between $20,000 and $40,000 capture $1.1 billion. Welfare for households with incomes below $20,000 declines by $4.7 billion.

Economic Cycles and the Social Safety Net

PRWORA concentrated on welfare's role in helping recipients overcome persistent poverty by changing cash assistance rules, adding work requirements, and giving States more control over their welfare programs. What PRWORA ignored, however, was welfare's more traditional roles as a social safety net during cyclical economic downturns and as an automatic stabilizer. The new legislation modified the intent of post World War II legislation such as The Employment Act of 1946, which committed the Federal Government to overtly manage the macroeconomy by allowing the government's automatic stabilizers to function. After PRWORA, the Food Stamp Program is now one of the only assistance programs available based primarily on financial need. The importance of this program will be especially apparent during times of increased economic need, such as recessions.

Eliminating the entitlement status of welfare benefits means States are not obligated to expand programs in times of greatest need. Except for food assistance programs, welfare is funded primarily through capped block grants to the States. Federal fiscal and social responsibility has, therefore, been delegated to State lawmakers, who face increased program costs during economic downturns, but are likely to lack the financial resources to meet these increased costs. Administration and congressional proposals for balancing the Federal budget included significant cuts in outlays for State and local programs. These cuts, when combined with economic distress in a State, will substantially weaken a State's capacity to augment welfare spending. States will likely experience significant financial pressure simply to maintain current spending for welfare.

Changes in State responses to the new welfare environment mean the Food Stamp Program will become more important as a cyclical safety net. We have witnessed in the post-1983 period, a large decline in the share of income going to the lowest 20 percent of households and a large increase in the share of income going to the top 20 percent. Real hourly and weekly earnings have been declining for 20 years and an increasing share of national income has been in the form of capital income, which is captured by the upper end of the income distribution. Increased

income dispersion, with an increasing proportion of working poor near the poverty threshold, heightens the importance of food stamps as a cyclical safety net during economic downturns. Other Federal transfer programs, like unemployment insurance and social security, have relatively strong work and earnings requirements. Poor families with weak employment records either are not eligible for these programs or qualify only for minimal benefits (Gustafson and Levine, 1998).

The Macroeconomy, the Food Stamp Program, and Poverty

During a recession, unemployment rates rise and real wages fall. Consequently, the average household's budget falls and the amount of money available for food falls. Food stamps ease this burden in two ways. First, food stamps become an important source of assistance for newly eligible households. Second, increases in food stamps from reduced real earnings also augment the incomes of current recipients. Figure 5 illustrates the close historical relationship between changes in the unemployment rate, food stamp participation rate, and the poverty rate.

Several studies have estimated the relationship between macroeconomic conditions and the poverty rate. Using aggregate data on unemployment, inflation, and other macroeconomic variables, Blank and Blinder (1986) considered whether inflation or unemployment was the "cruelest tax" for the poor. Using data from 1959 to 1983, they found that a 1-percentage point increase in unemployment will lead to a 0.7-percent increase in poverty while a 1-percentage point increase in inflation will only lead to a 0.1-percent increase.

In 1964, W. H. Locke Anderson wrote, "the elimination of poverty through 'trickling down' is likely to be slower and more uncertain in the future than in the past." Given an approximately lognormal distribution of roughly constant shape and given a fixed poverty threshold below modal income, successive increments to mean income would move fewer and fewer people above the poverty line. That is, the relationship between GDP growth and poverty was necessarily nonlinear, thereby reducing the effectiveness of overall economic growth as a policy response to poverty.[9]

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[9]Gottschalk and Danziger (1985) argue a large portion of the decline in the poverty rate is attributable to increased transfer payments and not just economic growth.

Figure 5
Food stamp participation, poverty, and unemployment rates, 1959-96

Percent

Blank's (1993) work examining the relationship between economic growth and poverty suggested the historical relationship between poverty and macroeconomic growth changed during the late 1970's and 1980's. If the historical relationship between the economic expansion and poverty prevailed during this period, then economists would have predicted that the prolonged expansion observed from 1983 to 1989 would have decreased poverty to about 9.3 percent. This would have been the lowest value in U.S. history. By 1989, the measured poverty rate was 12.8 percent, higher than it was in 1979.

Many explanations for the divergence between historical poverty rate, income inequality, and economic growth have been advanced. Such explanations include changing institutional wage-setting mechanisms, a changing labor cohort, a globalizing of production, changing technology, and increasing earnings instability. The literature suggests no single cause is large enough to account for the divergence between economic growth and poverty, but technological change and economic restructuring motivated by increased international competition and the globalization of production are likely the most important explanations.

From 1959 to 1989, per-capita growth averaged a fairly constant 2.7 percent. From 1959 to 1969, the poverty rate declined dramatically. However, the poverty rate declined only modestly during the 1980's. One major difference in the two periods was that from 1983 to 1989 the growth in real-GDP per

employee was only 1.1 percent as opposed to the 2.1-percent growth from 1959 to 1969 (Blank and Card, 1993). GDP growth during the 1980's was driven by increases in labor use (number of hours worked) not productivity growth associated with increased real wages. In addition, wage inequality increased during the 1980's. Although average incomes were increasing, the increase could largely be attributed to income increases of the nonpoor (Blank and Card, 1993). Evidence suggests younger workers earned less than older workers and returns to education were increasing, leaving less educated poor persons less able to reap the benefits of the economic expansion (Cutler and Katz, 1991).

There are more poor people, as defined by the poverty threshold, than food stamp recipients. Not all poor persons qualify for food stamps. Although all people below the poverty threshold meet the income test, they may not meet the asset test. In addition, approximately 30 percent to 40 percent of families eligible for food stamps choose not to participate in the program. Reasons for not participating include expectations of increased income, stigma associated with receiving food stamps, and lack of knowledge about the program.[10] It is possible, therefore, for the number of poor to increase without observing an increase in the number of food stamp recipients or no change in the number of poor people with an increase in the number of food stamp recipients.

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[10]For more information about the determinants of participation among the eligible population see Blank and Ruggles (1996).

To gauge the differential effects of changing macro-economic conditions on food stamp participation and poverty, we estimated models with structures similar to those proposed by Blank and Blinder (1986) and Blank (1993).[11] Parameter estimates for the poverty rate equation are consistent with previous studies. These parameter estimates and associated statistics are provided in Appendix A. Two results from the food stamp participation rate equation are interesting. First, inflation, relative to unemployment, is slightly more important for food stamps than the poverty rate. As the real value of AFDC payments declined during the 1980's, demand for food stamps, as a component of welfare transfers, increased. Second, the post-1990 dummy variable is positive and significant only for the food stamp participation model. After 1990, there appears to be a change in food stamp participation rates not reflected in the poverty rate.

Simulations of the effect of a 1-percentage point increase in the unemployment rate, coinciding with a 0.07-percentage point decline in the inflation rate (to reflect the average tradeoff that occurred between these variables over this time period), were performed to demonstrate the impact of a changing macroeconomy. After 1 year, this change led to a 0.29-percentage point increase in the food stamp participation rate (approximately 680,000 more people) and a 0.32-percentage point increase in poverty rate.

We also used the estimated models to examine the impact of an economic downturn on poverty and food stamp participation rates.[12] The simulations were conducted using CBO's macroeconomic assumptions of 1996 (Base) and a less sanguine alternative, a mild recession beginning in 1997, similar to the experience of the early 1990's. To replicate that recession, we assume an unemployment rate of 7.0 percent in 1998, 7.6 percent in 1999, and 7.0 percent in 2000 and an inflation rate of 2.0 percent in 1998, 1.5 percent in 1999, and 1.5 percent in 2000.[13] In those years, the CBO assumes an unemployment rate of 6.0 percent and inflation rates of 3.1 percent, 3.0 percent, and 2.9 percent.

As seen in the right side of figure 6, the state of the macroeconomy leads to measurably different food stamp participation paths.[14] The greatest difference is in 2000 when a mild recession leads to a 10.2-percent participation rate compared to 9.8 percent under CBO's macroeconomic forecast. In this illustration, approximately 750,000 more people would be on food stamps in 2000 due to this mild economic downturn. Increasing poverty rates resulting from a cyclical downturn exacerbate the problem. With a mild recession, the poverty rate in 2000 is 15.6 percent compared to 14.9 percent with CBO's assumptions.

An economic downturn increases food stamp program outlays because program participation increases and food stamp allotments increase for current beneficiaries as real wages fall, work hours are reduced, and jobs are lost. This dual effect is captured here in a model that directly estimates real food stamp program outlays as a function of important macroeconomic variables: real national income, inflation, and the unemployment rate. This model, based on historical information about the relationship between food stamp outlays and the economy is estimated over 1976-96. Parameter estimates and associated statistics are presented in Appendix B. The model illustrates

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[11]The following relationships were estimated:
$$(1) FS_t = \alpha_1 + \alpha_2 FS_{t-1} + \alpha_3 U_t + \alpha_4 I_t + \alpha_5 t + \alpha_6 D + \varepsilon_t$$
$$(2) POV_t = \alpha_1' + \alpha_2' POV_{t-1} + \alpha_3' U_t + \alpha_4' I_t + \alpha_5' t + \alpha_6' D + \varepsilon_t$$
where FS is the food stamp participation rate (the number of food stamp recipients divided by the population); U is the male unemployment rate (the number of unemployed males divided by the number of males in the labor force (this rate is a better reflection of the economy's health, especially in the early years of the sample)); I is the inflation rate (from the CPI-U); t is the year; D is a dummy variable, ($\geq 1990 = 1$); and POV is the poverty rate (the number of persons in households below the poverty line divided by the population). Food stamp participation rates and poverty rates were estimated with annual data from 1971 to 1996. These series began in 1971 when national standards were established and States were required to inform people about food stamp benefits. Due to serial auto-correlation in the poverty rate model, a Cochrane-Orcutt correction was used and is reflected in the parameter estimates.

[12]These simulation models were estimated with historical data pre-dating changes in welfare and food stamp legislation. Simulation results will be less reliable if legislated changes have significantly altered the historical relationship between the macroeconomy and poverty and participation rates.

[13]We assume increases in the unemployment and inflation rates from 1996 for those years are the same as the relative increases in 1991-93 from 1990.

[14]This figure also displays the predicted values of the food stamp participation and poverty rates based upon the parameters in Appendix A.

Figure 6
Participation and poverty rates: Fitted and projected, 1972-2000

Percent
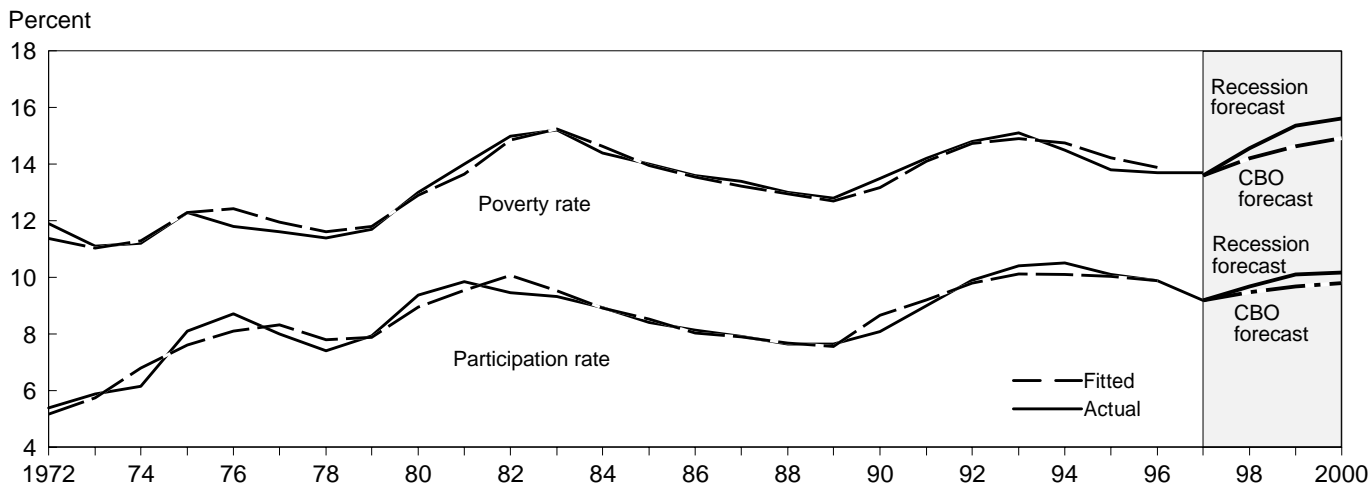
Source: From Kuhn, LeBlanc, and Gundersen, 1997.

the effects of hypothetical changes in the economy on real aggregate food stamp expenditures.

Two recessions are simulated (fig. 7) and compared with a Base simulation. The Base simulation uses macroeconomic assumptions developed by CBO and discussed earlier in this paper. Simulation (A) illustrates the effects of a mild recession, similar to that experienced during the early 1990's. Simulation (B) illustrates the effects of a more severe recession.[15] In this simulation, we assume the percentage change in real disposable income is zero in 1998 and slowly increases to 0.015 in 2004; the percentage change in the consumer price index is 0.025 in 1998 and slowly increases to 0.028 in 2002 and 0.03 by 2003; and the unemployment rate is 0.07 in 1998 and increases to 0.097 by 2000, and then decreases to 0.07 by 2004.

In addition to the Base and recessionary simulations, we simulate the effects of a continued robust economy on food stamp expenditures (fig. 7). In this simula-

tion, designated as C, we assume the unemployment rate is 5 percent, the percentage change in the CPI is 2.3 percent, and the percentage change in real national income is 3.8 percent in 1998 through 2000, reverting to the CBO Baseline in 2001. Assumptions for the 1998-2000 period reflect the most recent 1997 estimates for the associated variables.

When real food stamp expenditures are simulated over 1997-2004, food stamp expenditures increase even in the Base to $16.7 billion. This increase is attributed to the trend effects of the number of people in poverty.[16] Food stamp expenditures increase even though there is only a minor increase in unemployment, 5.4 to 6 percent, real national income increases 2 percent annually, and inflation is constant at 3 percent. In the mild recessionary scenario, Recession A, real food stamp outlays increase to a high of $17.4 billion in the year 2001 and return to base levels by 2002. In this scenario, the unemployment rate peaks at 7.6 percent in 2000 and then declines to base levels. From 1997 to 2004, Recession A leads an additional $4.2 billion in food stamp outlays. The more severe recession (B) results in an additional $17 billion in food stamp outlays. Annual outlays peak in 2002 at nearly $20.6 billion. This longer and more severe recession continues until 2005, with unemployment rates as high as 9.7 percent in 2000.

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[15]The following relationship was estimated:

$$RFS_t = \alpha_1 + \alpha_2 POV_t + \alpha_3 U_{t-1} + \alpha_4 INC_t + \alpha_5 CPI + \alpha_6 D + \varepsilon_t$$

where RFS is real food stamp expenditures; U is the male unemployment rate (the number of unemployed males divided by the number of males in the labor force); CPI is the percentage change in the inflation rate (from the CPI-U); t is the year; D is a dummy variable, (1990+ = 1); POV is the number of persons in households below 125 percent of the poverty line; INC is the percent change in real domestic income. Food stamp participation rates and poverty rates were estimated with annual data from 1976 to 1996; R^2 is 0.997; Durbin-Watson Statistic is 2.15; all variables are significant at the 99-percent level except the percentage change in real domestic income which is significant at 87-percent level.

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[16]Simulations include declines in food stamp outlays as estimated by CBO.

Figure 7
Simulated food stamp expenditures ($1984)
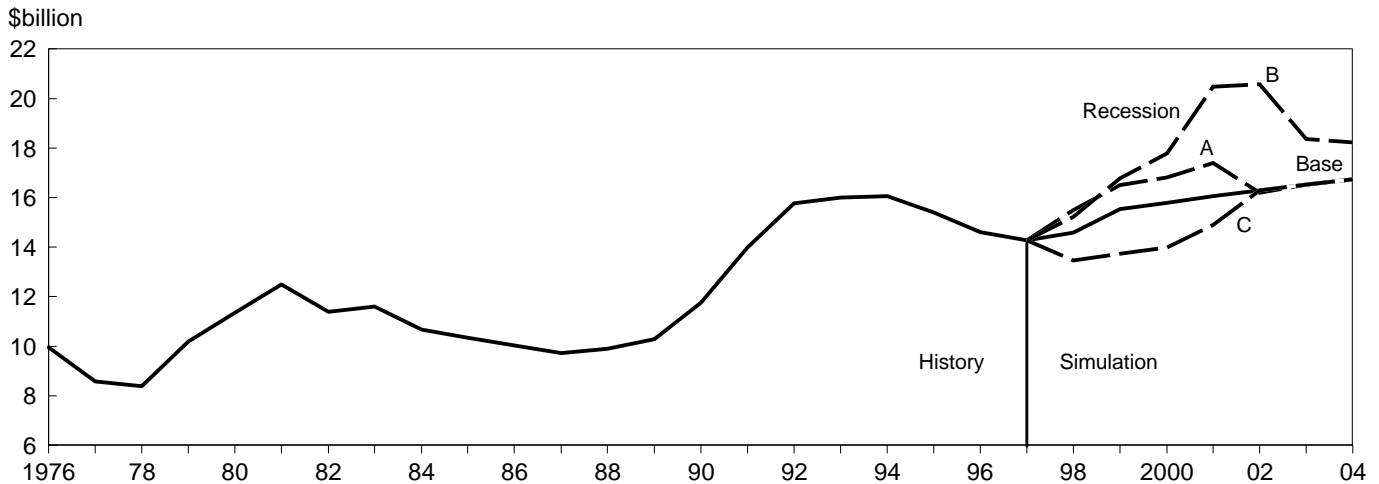
$billion

Source: Authors' calculations.

What happens if the economy remains strong? Real food stamp outlays continue to decrease. After reaching a peak in 1994 of a little over $16 billion, food stamp outlays decrease until 1998 where they fall to $13.5 billion. After 1998, outlays begin to grow as even a strong general economy cannot offset the trend growth in poverty. Although outlays remain less than Baseline levels, they begin to increase in 1999 and return to Baseline levels in 2002. In this illustration, total savings to the food stamp program from a continued strong economy reach nearly $6 billion over the period 1997 through 2002.

**The Macroeconomy and TANF:
Recent Experience**

The United States is in the third longest economic expansion in the 20th century. Since 1992, there has not been a quarter of negative growth rate. Sharp declines in AFDC (now TANF) caseloads in every State have coincided with the economic expansion. In some States the declines are very large. In Wisconsin for example, the number of AFDC recipients fell 48 percent between 1993 and 1996, and Oregon caseloads fell by 43 percent.

In a widely publicized study, the President's Council of Economic Advisers (CEA) considered the factors leading to the declining caseloads (CEA, 1997). They analyzed how State AFDC caseloads change as a function of a State's unemployment rate, its generosity of AFDC benefits, and the date States applied for waivers and the types of waivers requested. The CEA

found that 44 percent of the decline in AFDC caseloads was due to economic expansion and 31 percent was due to changes in the States' welfare programs.

These estimates have been cited as evidence of the success of welfare reform, but the results are controversial. The CEA study methodology has been criticized by Martini and Wiseman (1997). They argue the CEA's analysis overstates the impact of welfare changes as represented by State waiver programs, because of the time between waiver approval and implementation may be long. Others researchers have estimated lower impacts of welfare reform than the CEA. For example, Ziliak *et al.*, 1997, found that for the 26 States experiencing at least a 20-percent decline in AFDC caseloads between 1993 and 1996, 78 percent was attributable to the macroeconomy and only 6 percent to welfare waivers.

The relative importance of cause of declining welfare caseloads has important implications for the Food Stamp Program. Like TANF caseloads, food stamp caseloads have declined significantly. The number of food stamp recipients from January 1996 to June 1998 fell from 25.9 million to 19.3 million persons (fig. 8). U.S. Department of Health and Human Services figures show that 90 percent of AFDC/TANF recipients are also food stamp recipients and families tend to move on and off multiple welfare programs (Meyer and Cancian, 1996). Thus, while part of this decline in food stamp participation can be attributed to the ineligibility of immigrants and unemployed childless, able-bodied adults, some of the decline is due to the

same forces underlying the recent decline in AFDC/TANF caseloads.

If welfare reform has produced permanent changes in welfare caseloads, the impact of future recessions on food stamp participation rates will be mitigated. If, however, the recent decline is primarily due to economic expansion, the decline in food stamp participation rates reflected in figure 8 are temporary; during the next recession, food stamp participation rates will increase following historical patterns. Irrespective of the success of welfare reform, two factors will lead to an increase in food stamp expenditures during an economic downturn. First, as families are forced off TANF due to the expiration of time limits and enter into a contracting labor market, incomes will fall, leading to an increase in their food stamp benefits. Second, if States transfer funds from cash to noncash assistance programs (subsidized day care, for example) the income of TANF recipients will fall leading to an increase in food stamp benefits.

If welfare reform, rather than the economic expansion, is responsible for the recent decline in food stamp caseloads and this is a permanent decline, the impact of the next recession on food stamp expenditures will be mitigated. If, however, the economic expansion is

the prime mover for the recent decline in food stamp caseloads, the impact of future recessions on food stamp expenditures will be similar to previous ones. The impact will likely be even greater because of the potential fiscal inability of States to increase TANF payments. If this occurs, average incomes will fall, leading to an increase in food stamp benefits.

Figure 8
Number of food stamp recipients (Jan. 1996-June 1998)
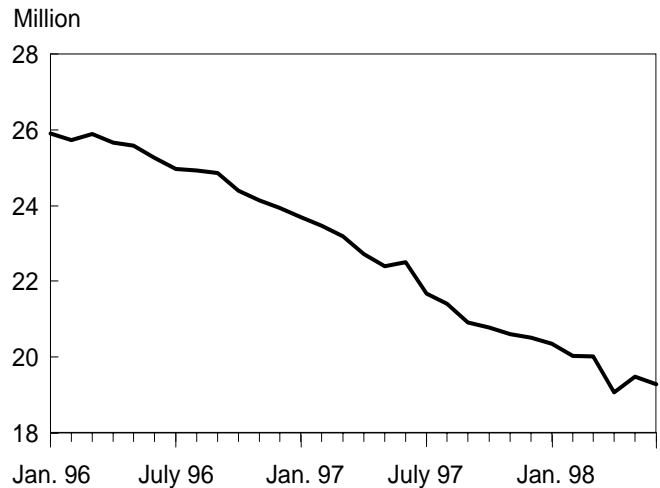
Source: U.S. Department of Agriculture, Food and Nutrition Service, various years.

Fiscal Effects of Block Grants

The 5-year time limit on TANF benefits will eventually force a number of welfare recipients off the TANF welfare program. Unless these former TANF recipients replace lost TANF income with wage income, their net income will decrease and their food stamp allotment will increase. In addition, States are free, subject to some limitations, to directly transfer up to 30 percent of the cash assistance block grant to the child care block grant and are provided the flexibility to develop their own welfare programs. To the extent States replace cash assistance with salary subsidies, child-care vouchers, or other noncash support, measured cash income of food stamp recipients is likely to decrease, making them eligible for larger food stamp allotments. Evidence provided by State assistance plans, required by PRWORA to ensure State funds are spent only on needy families with minor children, reveals a wide variety of expenditure alternatives to simple cash assistance. These alternatives include child care, educational programs, transportation services, contingency funds, wage subsidies, teen-pregnancy prevention, school-to-work programs, and community grants.

Shifting Federal matching funds to a block-grant structure will further the Food Stamp Program's role as a safety net. State welfare programs that shift money away from direct cash assistance increase the pressure on the Food Stamp Program, particularly in economic downturns.[17] Food stamps are a fairly close substitute for cash assistance, are 100 percent financed by the Federal Government, and are closely linked to the cost of living through adjustments to the Thrifty Food Plan. These features provide an incentive for States to allow food stamps to replace TANF cash assistance funds.

We use a State budget constraint model to illustrate the potential implications of block granting welfare. This model maintains that State income determines welfare benefits, the marginal price of cash and in-kind grants, and the preferences of State decisionmakers. In our example, States allocate resources between welfare benefits and other expenditures like schools, prisons, and transportation by choosing a point like O (fig. 9). An open-ended Federal matching grant for welfare expenditures rotates the State's budget constraint from AB to AC by decreasing the price to the State of an additional dollar of benefits.[18] If a State decisionmaker were to move from an original allocation to point 2, all the matching aid is used to increase welfare benefits. At point 1, the matching aid is used to solely purchase schools, prisons, and transportation. In this case, no additional allocations are made to purchase welfare benefits.

We can incorporate food stamps by assuming State decisionmakers view food stamps as fully fungible with cash welfare benefits. The horizontal axis can be redefined to include welfare benefits plus food stamps. The federally financed Food Stamp Program shifts the State budget constraint from AC to ADEF. If the State pays zero cash welfare benefits, welfare beneficiaries (those receiving cash or food assistance) receive a maximum food stamp benefit of AD. Along the line segment DE, additional State expenditures on cash welfare assistance do not decrease food stamp receipts. This cash assistance disregard is captured in the standard deduction of food stamp recipient income. The relationship between cash assistance and food stamps is complicated, however, because for every dollar of cash welfare benefits a family receives above a prespecified base income level, their monthly food stamp benefit is reduced by 30 cents. Holding the number of participants constant, if cash welfare benefits exceed E, then the food stamp program taxes cash welfare benefits at 30 percent. Between E and F, total (State and Federal) welfare benefits must increase by $1/(1-.3)$ or $1.43 to increase total benefits by $1.
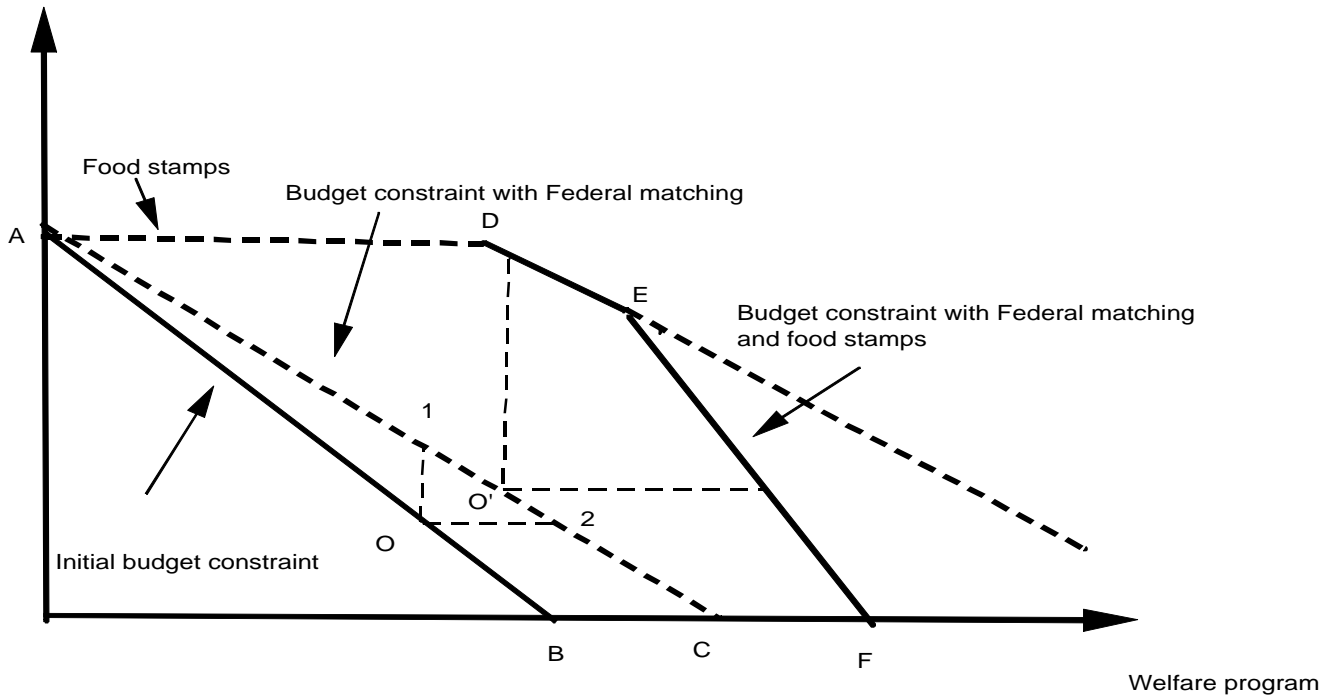
What happens to the fiscal incentives facing States under fixed Federal block grants? The shift to block grants increases the implicit price of providing cash welfare benefits. If we exclude food stamps, the effect of fixed block grants is depicted in figure 10.

[17]There is a $2-billion contingency fund that States can draw upon during economic downturns and this will alleviate some of the pressure on the Food Stamp Program during a recession. A State is eligible if its unemployment rate for a 3-month period exceeds 6.5 percent and 110 percent of the rate for the corresponding period in either of the two preceding calendar years and its food stamp caseload increases 10 percent over the corresponding fiscal 94-95 level. There is also an $800-million grant fund for States with exceptionally high population growth, benefits lower than 35 percent of the national average, or above average growth and below average benefits.

[18]Tax revenues are assumed constant and fully spent for public goods. If tax revenues are not held constant, it is possible for State decisionmakers, with knowledge of the matching program, to cut taxes and shift the original budget constraint toward the origin. This type of strategic action could mitigate the price effect of the matching grant and leave the original split between welfare expenditures and other State expenditures essentially unchanged.

Figure 9
State budget choices with Federal matching grant

Schools, prisons, transportation

Food stamps

Budget constraint with Federal matching

A

D

E

Budget constraint with Federal matching
and food stamps

1

O'

2

Initial budget constraint

O

B

C

F

Welfare program

Source: Authors' calculations.

Figure 10
State budget choices with Federal block grant

Schools, prisons, transportation

D

Budget constraint with block grant

A

F

Initial budget constraint

G

Budget constraint with matching grant

B

E

C

Welfare program
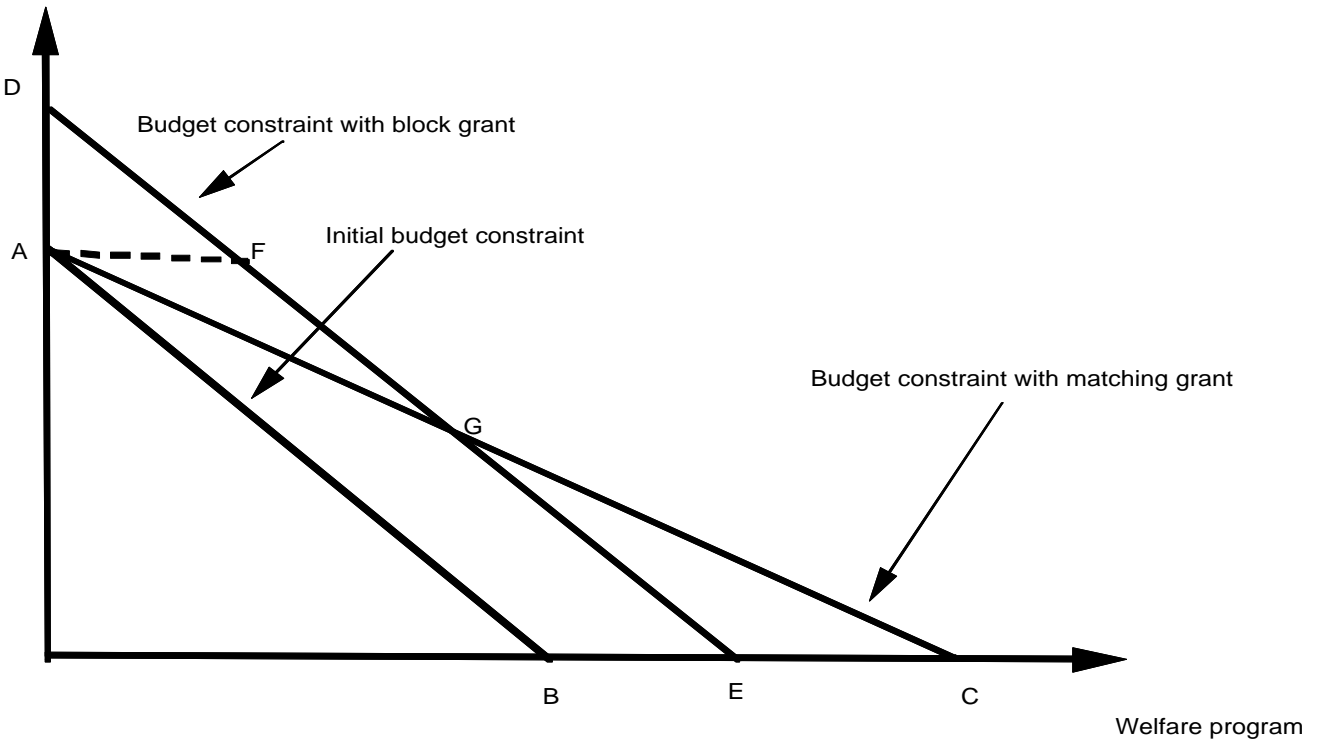
Source: Authors' calculations.

The longrun budget constraint shifts from AC to AFGE. The final mix of public expenditures depends on the slope of the original budget constraint, the preferences of the State decisionmaker, and whether maintenance of effort requirements are binding.

It is possible, without maintenance of effort requirements, for States to reduce their contribution to zero and move to point F. Along the segment DF, States use the Federal block funds for purposes other than welfare. State maintenance of effort requirements suggest States trade off welfare program expenditures against schools, prisons, and transportation. One possibility is that States will move to point G, which reduces State contributions to the minimum allowed by maintenance of effort requirements. Over time, maintenance of effort requirements, even when defined in real terms, lose their constraining power because maintenance of effort requirements are rarely adjusted for inflation, population, or caseload growth (Gramlich, 1982; Chernick, 1982). States would then be unconstrained to select any point along the segment FE.

Figure 11 shows the effect of block grants in the presence of Federal food stamp benefits. With food stamps, the State budget constraint becomes ADEF. Recall, the slope of EF is determined by a 30-cent tax on every dollar of cash welfare benefits a family receives above a prespecified base income level. Because the food stamp program continues to tax cash welfare at a rate of 0.3, and given the mean Federal matching rate in 1996 of 60 percent, the marginal price of increasing cash benefits to the State increases from 57 cents to $1.43 or an additional 86 cents. The increase in price is greater in lower income States, which have historically higher Federal matching rates.

The sharp increase in the implicit price of cash welfare benefits creates a strong incentive for States to substitute away from welfare benefits. Like any demand analysis, the final effect of changing the fiscal incentives faced by States depends on the importance of price and substitution parameters relative to the underlying preferences of State decisionmakers. Estimates of the likely effects of block granting welfare benefits vary considerably. Chernick and Reschovsky (1996) provide an excellent summary of estimates of price and income elasticities associated with State fiscal responses to different incentive structures. Recognizing all the studies are plagued by statistical problems, Chernick and Reschovsky divide the

Figure 11
State budget choices with block grant and food stamps

Schools, prisons, transportation
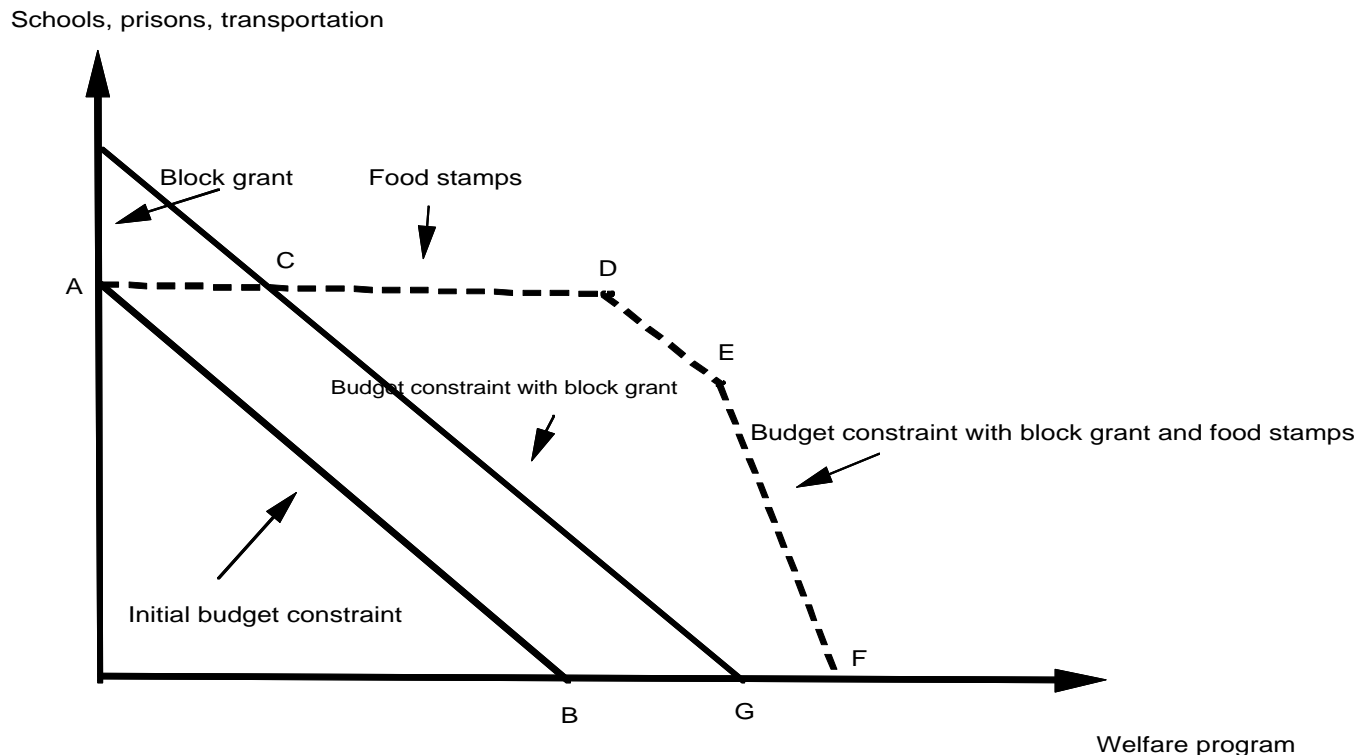
Source: Authors' calculations.

studies into two groups. One group tends to find large State responses to differences in matching rates and relatively little substitution of food stamps for AFDC and the second group indicates total redistributional spending by States is approximately constant, and any decrease in Federal spending will be largely offset by increases in State expenditures.

Studies predicting the largest declines in State welfare expenditures are Gramlich (1982, 1985), Gramlich and Laren (1984), and Craig and Inman (1986). Contrasting these studies are the work of Moffitt (1984, 1990) and Ribar and Wilhelm (1994). Although changes in State welfare expenditures may adjust slowly, perhaps 4 to 5 years, Gramlich and Craig and Inman estimate total reductions in State spending range from 75 to 80 percent.

Moffitt's (1990) analysis of the interaction between welfare programs suggests State legislatures have allowed federally financed food stamp benefits and federally subsidized Medicaid benefits to substitute for AFDC. He found declines in real AFDC reflected a substitution of federally funded food stamp benefits. Eliminating matching grants would reduce AFDC benefit levels by about 9 percent, while any reductions in food stamps would in the long run be fully offset by an increase in AFDC benefits.

Given the ambiguous econometric evidence, no definitive estimate of the effect of block grants on State cash welfare expenditures is possible. Any of these studies are likely to provide only a lower bound of changes in State spending on cash welfare benefits because they ignore the effects of current recipients leaving TANF due to time limits and the potential implications of States providing noncash income forms of TANF support. After an extensive review of the literature, however, Chernick and Reschovsky estimate that "on average State governments will reduce overall spending on AFDC (TANF) and Medicaid by approximately 30 percent." In 1994, total Federal and State and local AFDC expenditures were $25.9 billion. If longrun real cash benefits from States were to decline by 9 percent, food stamp benefits would offset 30 percent of this lost income and increase by $700 million over the CBO baseline budget by 2004. More significant declines in cash TANF benefits of 30 percent, as suggested by Chernick and Reschovsky, might mean increases in the food stamp budget of $2.3 billion over the 2004 baseline.

Figure 12 illustrates the implications for the food stamp budget of alternative assumptions about declines in cash TANF benefits by presenting three simulations. The CBO baseline is also presented for comparison. Simulations A and B use the CBO macroeconomic assumptions, but illustrate a different assumption about the share of cash TANF benefits that leak away through time. Simulation A assumes that by 2004, cash TANF benefits will decrease 9 percent; Simulation B illustrates a decrease of 30 percent. Simulation C combines a 30-percent decrease in TANF outlays by 2004 with a mild economic recession. Simulation C converges in the year 2003 to Simulation B because the mild recession is assumed to have run its course.

The results are dramatic. When Chernick and Reschovsky's estimate of a 30-percent decrease in cash TANF benefits is combined with a mild economic downturn, total real food stamp expenditures are simulated to increase to nearly $19 billion by the year 2000. By the year 2004, both Simulations B and C exceed the base by $2.3 billion, but total real outlays on food stamps increase by over $16 billion dollars under Simulation C compared to $9 billion under Simulation B. The more conservative assumption of a cash TANF benefit leakage of 9 percent still results in additional real food stamp expenditures of $2.8 billion greater than the CBO base.

Figure 12

Indirect effects of block grant on food stamp expenditures ($1984)
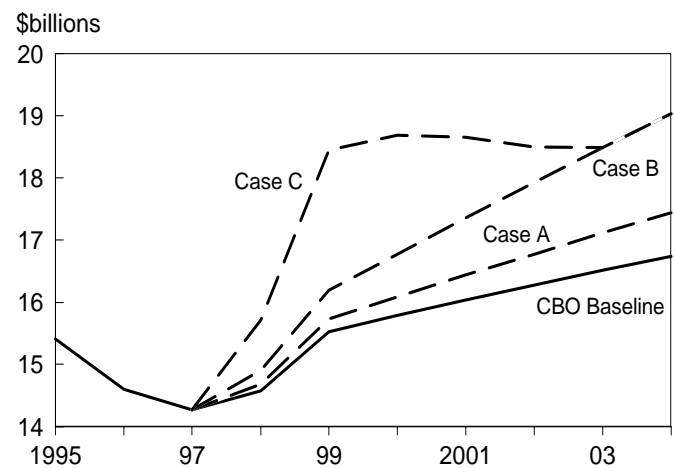
Source: Authors' calculations.

Conclusions

The reform of the U.S. welfare system is having far-reaching effects on the Food Stamp Program. Decreases in transfer payments to poor families, of the magnitude suggested by the Congressional Budget Office, will significantly affect the demand for food, food production, food consumption, and nutrition. Lower transfer payments lead to reduced expenditures on food, changes in the kinds of food consumed, and reduced expenditures on other goods by low-income households. Decreases in food stamp outlays directly decrease food spending, but also lead to lower expenditures for rent, clothing, and medical care as scarce resources are reallocated in the family. Lower food expenditures and changing food consumption patterns, particularly for children, will significantly affect nutrition and will have long-term consequences for medical outlays and losses in productivity. Agricultural production will also be affected. Lower outlays for food mean declines in gross farm income. Our analysis suggests declines in gross farm income of $1-$2 billion over a 5-year period. The largest impacts are expected for meat, dairy, and vegetables.

Significant outcomes can be expected across the economy. The magnitude of the outcomes and the distribution of the effects will depend on how changes in welfare legislation are bundled with other fiscal policies. We used a general equilibrium modeling approach to examine the economywide effects among the producing sectors and households, with households distinguished by income groups. The impacts on producers from a $4-billion annual reduction in food assistance and a shift in demand from food to nonfood due to recipient response to decreasing benefits are traced by assuming savings from a shrinking Food Stamp Program are used for tax reduction. Farm sector annual output losses are estimated to range from $1 to $2 billion over 5 years (between 0.1 and 0.2 percent of sector output). Food processing and distribution sector annual output losses range from $1.3 billion (0.15 percent) to $2.5 billion (0.3 percent) over the same time.

The impact of program modifications on spending for particular food depends on the overall impacts on food spending as well as how the food budget is allocated in low-income households. The impact on farm commodities depends on changes in food spending of program participants, the value of the farm component in each food group, supply and demand adjustments

that take place at the farm level, and any interactions that might take place with farm programs. Results suggest the largest impact is on the beef sector. This is due to the large portion of the household budget spent on beef and the large farm component of the product.

The potential economic impacts of the new welfare legislation on the agricultural sector and the general economy depend on the size of the reduction in benefits and the form of the program. Major effects are likely to be a decrease in retail spending; decrease in the demand for agricultural commodities and lower commodity prices and farm income; and a reallocation of capital and labor to nonfood sectors. The period of adjustment affects the impacts. In the short run, the economywide effects will be negative. As the reduced government expenditures are injected back into the economy, through a tax cut, the short-term effects are mitigated. There is a shift of jobs out of food and into nonfood production. The likelihood that short-term impacts will prevail depends on timing. A simultaneous cut in food assistance benefits and taxes would bring the long-term results more quickly.

We also examine the economywide effects of reducing transfers to low-income families and balancing the ensuing Federal budget surplus by restoring the preferential treatment of capital gains. Our results indicate restoring the preferential treatment of capital gains offsets some of the lost food consumption associated with reducing social welfare programs for the poor. Reducing the distortion between the taxation of capital and labor increases economywide efficiency leading to increased consumption of food by all income classes. Although economywide food expenditures increase, offsetting lost revenue from the reduced capital gains tax by decreasing transfers to low-income families reduces food consumption for the two lowest income groups by nearly $1 billion. This result dramatically illustrates how changes in transfer payments and tax policy affect what people consume. Differences in the size and pattern of expenditures under the alternative redistribution schemes are evident across all income groups, but most pronounced for the low- and high-income households.

Most analyses of the Personal Responsibility and Work Opportunity Reconciliation Act largely ignored the welfare program's traditional role as a social safety net during cyclical economic downturns. The sub-

stantial changes in incentives and program structure will have important implications for the demand for food and will increase the prominence of the food stamp program as a cyclical social safety net.

To gauge the differential effects of a recession on food stamp participation and poverty, we investigated the influence of macroeconomic conditions on poverty and food stamp participation. Simulations of the effect of a 1-percentage point increase in the unemployment rate, coinciding with a 0.07-percentage point decline in the inflation rate (to reflect the average tradeoff that occurred between these variables over this time period), were performed to demonstrate the impact of a changing macroeconomy. The greatest effect is in the year 2000, where a moderate economic downturn increases the food stamp participation rate by four-tenths of a percent (approximately 750,000 more people).

An economic downturn will increase food stamp program outlays by increasing participation. In addition, as real wages fall, food stamp allotments increase for current beneficiaries. Our simulations of a modest recession similar to that experienced during the early 1990's and a more severe recession, similar to the experience of the early 1980's, on real food stamp expenditures show real food stamp expenditures increase by as much as $5 billion above base projections.

As TANF caseloads declined, food stamp caseloads have declined significantly. The number of food stamp recipients from January 1996 to June 1998 fell from 25.9 million to 19.3 million persons. U.S. Department of Health and Human Services figures show that 90 percent of AFDC/TANF recipients are also food stamp recipients and families tend to move on and off multiple welfare programs. Thus, while part of this decline in food stamp participation can be attributed to the ineligibility of immigrants and unemployed childless, able-bodied adults, some of the decline is due to the same forces underlying the recent decline in AFDC/TANF caseloads.

The sharp increase in the implicit price of cash welfare benefits due to the block granting of AFDC creates a strong incentive for States to substitute Food Stamp benefits for cash welfare. Like any demand analysis, the final effect of changing the fiscal incentives faced by States depends on the importance of price and substitution parameters relative to the underlying preferences of State decisionmakers. If in the long run, real cash benefits from States were to decline by 9 percent, food stamp benefits would offset 70 percent of this lost income and increase by $1.63 billion over the CBO baseline budget. More significant declines in cash TANF benefits of 30 percent might mean increases in the food stamp budget of $5.4 billion. This new relationship further illustrates the increased role of the Food Stamp Program as a social safety net.

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Appendix A—Effect of Macroeconomic Variables on Food Stamps and Poverty
Dependent Variables: Food Stamp Participation Rate and Poverty Rate

Variables	Food stamp participation rate	Poverty rate
	Coefficient (standard error)	
FSP_{t-1}	.553**	
	(.102)	
POV_{t-1}		.540**
		(.094)
UN_t	.301**	.445**
	(.071)	(.043)
INF_t	.126**	.131**
	(.038)	(.029)
t	.032	.091**
	(.029)	(.023)
POST90	.786*	.163
	(.305)	(.211)
Constant	-62.938	-178.932*
	(56.344)	(44.246)
Adjusted R-squared	.885	.946
Number of observations	25	24

Notes: The Cochrane-Orcutt correction for serially correlated residuals is used.
  ** Variable is statistically significant at the 99-percent confidence level.
   * Variable is statistically significant at the 95-percent confidence level.

Appendix B—Effect of Macroeconomic Variables on Food Stamps Outlays
Dependent Variable: Real Food Stamp Expenditures

Variables	Food stamp expenditures
	Coefficient (standard error)
POV_t	4104.41** (895.68)
U_{t-1}	11.307** (2.11)
CPI_t	38.72** (12.32)
INC_t	-22.15 (2.11)
POST90	3.08** (.62)
Constant	-62.938** (56.344)
Adjusted R-squared	0.93
Durbin-Watson	2.14
observations	21

Notes: ** Variable is statistically significant at the 99-percent confidence level.
     * Variable is statistically significant at the 95-percent confidence level.